

What is claimed is:

- 1 1. A method of discovering an Ethernet address of a target device in a
2 network having a plurality of devices, the method using a device name of the
3 target device and comprising:
4 forming a broadcast Ethernet packet including a source address field
5 and a payload field, the source address field including an Ethernet address of
6 an initiator and the payload field of the broadcast Ethernet packet including
7 the device name;
8 broadcasting the Ethernet packet over the network to each device in the
9 network including the target device;
10 ignoring the broadcast Ethernet packet at the devices other than the
11 target device;
12 receiving a response Ethernet packet from the target device, the
13 response Ethernet packet including a destination address field, the destination
14 address field including the Ethernet address of the initiator and the response
15 Ethernet packet including the Ethernet address of the target device.
- 1 2. The method according to claim 1, wherein the response Ethernet
2 packet includes a payload field, the payload field including the Ethernet
3 address of the target device.
- 1 3. The method according to claim 2, wherein the response Ethernet
2 packet includes a source address field, the source address field including the
3 Ethernet address of the target device.
- 1 4. The method according to claim 1, further comprising checking an
2 address memory and determining that the Ethernet address of the target device
3 is not found in the address memory prior to forming the broadcast Ethernet
4 packet.

1 5. The method according to claim 4, further comprising storing the
2 Ethernet address of the target device in the address memory in association
3 with the device name after receiving the response Ethernet packet.

1 6. The method according to claim 1, the broadcast Ethernet packet and
2 the response Ethernet packet each including a type field, the type field
3 including the value 0806 hexadecimal.

1 7. The method according to claim 1, the broadcast Ethernet packet and
2 the response Ethernet packet each including a sender hardware address field, a
3 sender device name field, a receiver hardware address field and a receiver
4 device name field.

1 8. A method of establishing a connection between an initiator and a target
2 device in a network having a plurality of devices, the initiator having an
3 Ethernet address and the target device having an Ethernet address, the method
4 comprising:

5 checking an address memory for the Ethernet address of the target
6 device;

7 when the Ethernet address of the target device is not found in the
8 address memory, performing steps of:

9 forming a broadcast Ethernet packet including a source address
10 field and a payload field, the source address field including the
11 Ethernet address of the initiator and the payload field of the broadcast
12 Ethernet packet including the device name of the target device;

13 broadcasting the Ethernet packet over the network to each
14 device in the network including the target device;

15 ignoring the broadcast Ethernet packet at the devices other than
16 the target device;

17 receiving a response Ethernet packet from the target device, the
18 response Ethernet packet including a destination address field, the
19 destination address field including the Ethernet address of the initiator
20 and response Ethernet packet including the Ethernet address of the
21 target device; and

22 storing the Ethernet address of the target device in the address
23 memory in association with the device name of the target device;
24 when the device name is found in the address memory, performing
25 steps of:
26 sending a login request from the initiator to the target device;
27 and
28 receiving a logic response from the target device at the initiator.

1 9. The method according to claim 8, wherein the response Ethernet
2 packet includes a payload field, the payload field including the Ethernet
3 address of the target device.

1 10. The method according to claim 9, wherein the response Ethernet
2 packet includes a source address field, the source address field including the
3 Ethernet address of the target device.

1 11. The method according to claim 8, the broadcast Ethernet packet and
2 the response Ethernet packet each including a type field, the type field
3 including the value 0806 hexadecimal.

1 12. The method according to claim 8, the broadcast Ethernet packet and
2 the response Ethernet packet each including a sender hardware address field, a
3 sender device name field, a receiver hardware address field and a receiver
4 device name field.

1 13. A method of discovering a device name of a target device in a network
2 having a plurality of devices, the method using an Ethernet address of the
3 target device and comprising:

4 forming a broadcast Ethernet packet including a source address field
5 and a payload field, the source address field including an Ethernet address of
6 an initiator and the payload field of the broadcast Ethernet packet including
7 the Ethernet address of the target device;

8 broadcasting the Ethernet packet over the network to each device in the
9 network including the target device;

10 ignoring the broadcast Ethernet packet at the devices other than the
11 target device;
12 receiving a response Ethernet packet from the target device, the
13 response Ethernet packet including a destination address field and a payload
14 field, the destination address field including the Ethernet address of the
15 initiator and the payload field including the device name of the target device.

1 14. The method according to claim 13, wherein the response Ethernet
2 packet includes a source address field, the source address field including the
3 Ethernet address of the target device.

1 15. The method according to claim 13, further comprising checking an
2 address memory and determining that the device name of the target device is
3 not found in the address memory prior to forming the broadcast Ethernet
4 packet.

1 16. The method according to claim 15, further comprising storing the
2 device name of the target device in the address memory in association with the
3 device name after receiving the response Ethernet packet.

1 17. The method according to claim 13, the broadcast Ethernet packet and
2 the response Ethernet packet each including a type field, the type field
3 including the value 0806 hexadecimal.

1 18. The method according to claim 13, the broadcast Ethernet packet and
2 the response Ethernet packet each including a sender hardware address field, a
3 sender device name field, a receiver hardware address field and a receiver
4 device name field.

1 19. A computer readable memory comprising computer code for
2 implementing a method of discovering an Ethernet address of a target device
3 in a network having a plurality of devices, the method using a device name of
4 the target device and comprising:

5 forming a broadcast Ethernet packet including a source address field
6 and a payload field, the source address field including an Ethernet address of
7 an initiator and the payload field of the broadcast Ethernet packet including
8 the device name;

9 broadcasting the Ethernet packet over the network to each device in the
10 network including the target device, wherein the broadcast Ethernet packet is
11 ignored at the devices other than the target device; and

12 receiving a response Ethernet packet from the target device, the
13 response Ethernet packet including a destination address field, the destination
14 address field including the Ethernet address of the initiator and the response
15 Ethernet packet including the Ethernet address of the target device.